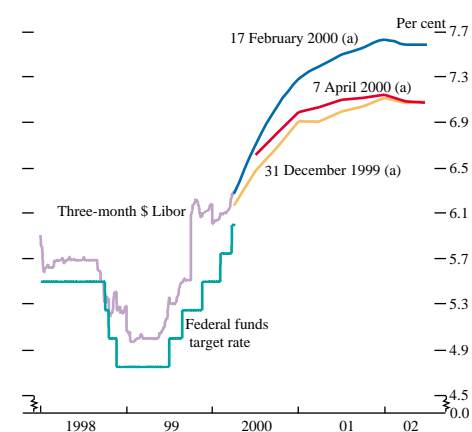


Markets and operations

This article reviews developments in international and domestic financial markets and describes Bank of England market operations in the period 30 December 1999 to 7 April 2000. It does not, however, repeat the review of developments over the century date change that was contained in the February 2000 Quarterly Bulletin.

- Official interest rates were raised by 50 basis points in the United Kingdom, the euro area and the United States during the review period. Nevertheless, market-based indicators of short-term interest rate expectations were little changed in all three areas.
- The US yield curve became inverted in January and early February, largely in response to news about changes in the prospective supply of US government securities. This development had relatively little impact on gilt yields, however.
- World equity markets became significantly more volatile during the period, with sharp falls in IT-related share prices occurring during March and early April.
- Exchange rate movements generally continued the patterns observed in 1999 Q4; the US dollar and sterling continued to appreciate, while the euro depreciated further.

Chart 1
US interest rates



Source: Bloomberg.

(a) Interest rates implied by eurodollar futures contracts at the dates specified. From April 2000 onwards, the x-axis relates to contract expiry dates.

Table A
Consensus GDP forecasts for 2000

	January	March	Difference
United States	3.6	4.6	1.0
Japan	0.7	1.0	0.3
Euro area	3.0	3.2	0.2
United Kingdom	3.1	3.2	0.1

Source: Consensus Economics.

International markets

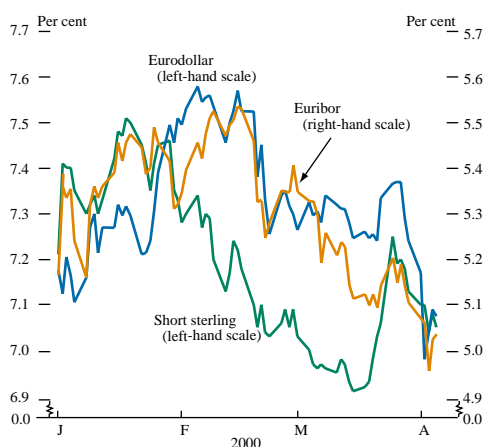
Short-term interest rates

United States

US short-term interest rates implied by eurodollar futures contracts expiring between 2000 and 2002 ended the period little changed from the end of 1999 (see Chart 1), indicating expectations of rates rising from around 6½% in spring 2000 to around 7% by the end of the year. Implied interest rates rose in the first half of the period, and declined thereafter (see Charts 1 and 2). Early in the year, market participants saw the smooth passage of the century date change as removing one possible constraint on monetary policy, making a rise in official interest rates more likely. In addition, the strength of the US economy continued to surprise markets during January; the December labour market and retail sales reports, consumer confidence, Q4 GDP and the employment cost index were all stronger than the markets had expected⁽¹⁾ and led interest rate expectations to rise. Outside forecasters generally revised up their forecasts for US GDP growth during the period as a whole (see Table A). By the end of January, most market participants were expecting the Federal Open Market Committee (FOMC) to raise the Federal funds target rate by 25 basis points at both its February and March meetings. Consequently, there was little reaction when it raised the Federal funds target and discount rates by 25 basis points on 2 February.

(1) Unless stated otherwise, data referred to as stronger or weaker than expected are relative to the median expectation of forecasts provided by market economists polled by the financial news information services.

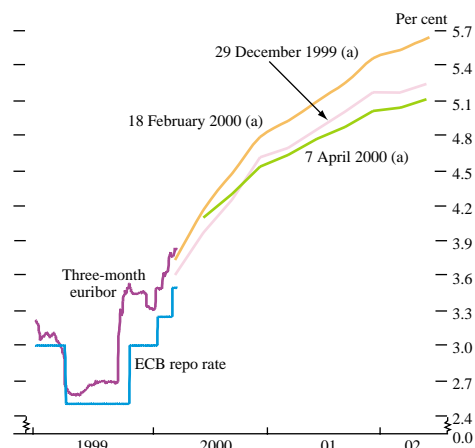
Chart 2
Futures interest rates^(a)



Source: Bloomberg.

(a) Implied by March 2002 futures contracts.

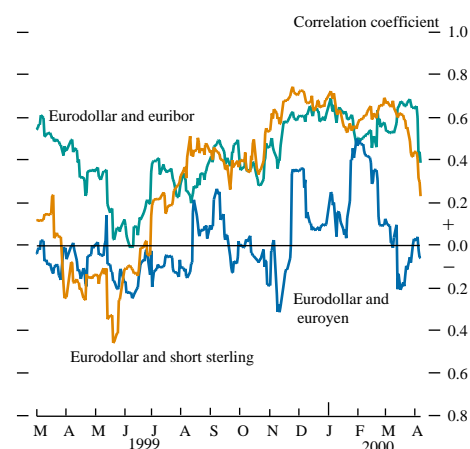
Chart 3
Euro-area interest rates



Source: Bloomberg.

(a) Interest rates implied by euribor futures contracts at the dates specified. From April 2000 onwards, the x-axis relates to contract expiry dates.

Chart 4
Correlations between futures contracts^(a)



Sources: Bank of England and Bloomberg.

(a) 30-day rolling correlations between two year ahead futures contracts. Contracts expiring in June 2001, December 2001 and June 2002 were used.

The fall in longer-dated interest rates implied by eurodollar futures largely occurred in two phases: between 17 and 25 February, and around the beginning of April. The February decline reflected a number of factors. First, weaker-than-expected January PPI and CPI data were published on 17 and 18 February respectively. Second, a series of comments from Federal Reserve officials, including Chairman Greenspan's first-round Humphrey-Hawkins testimony on 17 February, were interpreted as reinforcing market expectations that official interest rates would be raised at forthcoming meetings, possibly obviating the need for larger rises in the longer term. And third, falls in equity prices encouraged some switching out of equities into fixed-income assets. There was little immediate market reaction to the 25 basis point rise in the Federal funds target and discount rates to 6.0% and 5.5% respectively at the FOMC meeting on 21 March. An abrupt upward move in implied interest rates occurred, however, following publication of the minutes of the February FOMC meeting on 23 March; market participants were surprised that some committee members had expressed a preference for an increase of 50 basis points in the Federal funds rate and had felt that further increases might be needed.

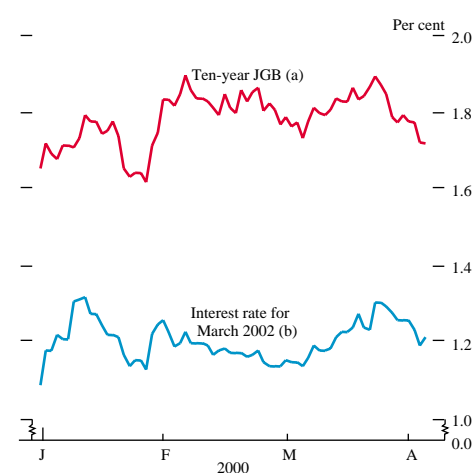
The fall in futures rates in late March and early April was again linked to equity price declines. The Nasdaq index fell by more than 9% between 31 March and 4 April, partly as a result of the antitrust court ruling against Microsoft.

Euro area

Movements in the euro-area money market yield curve were similar to those in the United States during the period (see Chart 2); implied futures interest rates rose until the middle of February and then fell through to 7 April. Overall, implied interest rates derived from euribor futures ended the period slightly lower than at the end of 1999 (see Chart 3), with the exception of very short rates. At the end of the period, the three-month rate was expected to rise by 65 basis points to around 4½% by December 2000. Chart 4 shows that the 30-day rolling correlation between daily changes in interest rates implied by eurodollar and euribor futures contracts was relatively high during Q1. As well as reflecting US influences, the rise in euro-area interest rate expectations in January was also related to a series of stronger-than-expected euro-area economic data releases; in particular, German manufacturing orders, French and German employment, German business sentiment, and French household consumption. These indicators led markets to anticipate higher official European Central Bank (ECB) interest rates. Market participants, however, had difficulty in correctly anticipating at which of its meetings the ECB would raise rates. For instance, prior to the ECB's 3 February increase, only a quarter of economists polled by Reuters had correctly forecast the 25 basis point rise in the refinancing rate to 3.25%.

While near-term interest rates implied by euribor futures remained stable in the second half of the review period, implied rates for September 2000 and beyond fell. This followed the publication of weaker-than-expected French and German industrial production data. Nonetheless, comments from ECB officials (including those

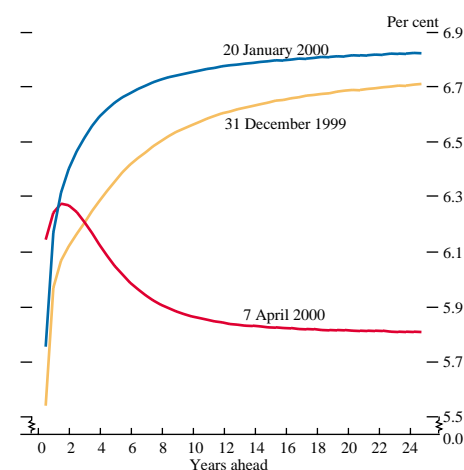
Chart 5
Japanese interest rates



Source: Bloomberg.

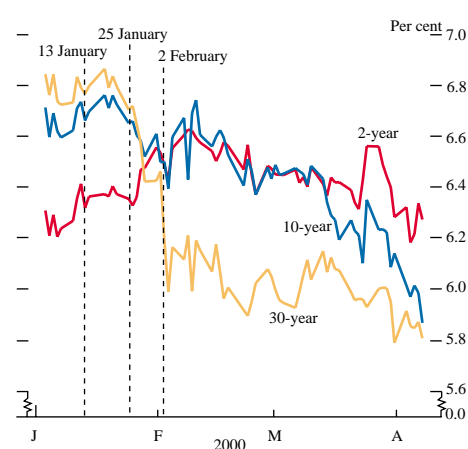
- (a) Derived from Svensson par yield curve.
(b) Implied by the March 2002 euroyen futures contract.

Chart 6
US Treasury zero-coupon yield curve^(a)



(a) Derived using the Svensson curve-fitting technique.

Chart 7
US Treasury yields^(a)



(a) Derived using the Svensson curve-fitting technique.

made on 3 February),⁽¹⁾ a further decline in the value of the euro, and the steady rise in the price of crude oil to more than \$30 per barrel in early March reinforced market expectations for higher official rates in the near term. On 16 March, implied interest rates from euribor contracts fell by 5–10 basis points after the refinancing, marginal lending, and deposit rates were raised a further 25 basis points to 3.5%, 4.5% and 2.5% respectively; some market participants had thought a 50 basis point rise possible.

Japan

Interest rates derived from euroyen futures contracts rose modestly during the first quarter (see Chart 5), largely in response to domestic conditions rather than international developments. The rise started in early January following a speech made by Bank of Japan (BoJ) Governor Hayami in late December, which market participants interpreted as suggesting that the zero interest rate policy might end sooner than previously thought. Later in January, however, the BoJ reaffirmed its zero interest rate policy. In the first half of March, publication of stronger-than-expected machinery orders and capital expenditure data led interest rate expectations to rise slightly.

Long-term interest rates

US Treasury yields of all maturities increased in the first few weeks of the year (see Chart 6), partly in response to the same factors that led to the rise in short-term interest rates. In addition, the unwinding of investment strategies aimed at avoiding potential Y2K market disturbances also contributed to the yield rise, as investors sold some of their holdings of 'safe-haven' Treasuries.

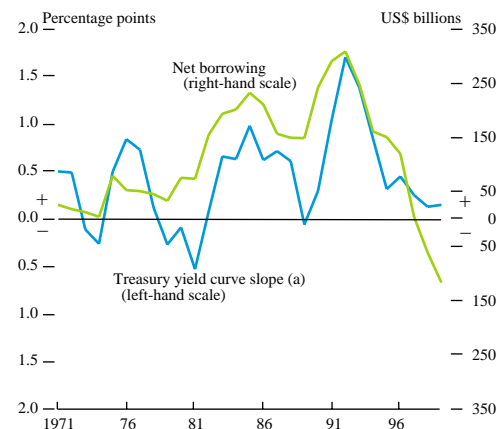
From 20 January onwards, however, medium and particularly longer-dated US Treasury yields fell sharply, producing an inversion of the yield curve from the two-year maturity onwards; 30-year yields fell by around 100 basis points between 20 January and 7 April (see Charts 6 and 7). The most likely explanation for the decline in long-duration yields was the change in the prospective supply of US government securities of that maturity.

In January and February there were a series of announcements suggesting that the supply of US government securities would be reduced. First, on 13 January, the Treasury released the details of its plans to repurchase \$30 billion of Treasury notes and bonds in 2000 (approximately 1% of the total outstanding US Treasury debt stock).⁽²⁾ Second, on 25 January, President Clinton announced that his 2001 budget submission would accelerate the pay-down of US Treasury debt; the US administration now plans to reduce its debt to zero by 2013, two years earlier than previously stated. And third, the Treasury's quarterly refunding announcement, made on 2 February, revealed significant cuts in the number and size of planned auctions at all maturities.

Since one of the stated objectives of the Treasury repurchase operations is to prevent an increase in the average maturity of US

(1) At a press conference, the ECB indicated that the decision to raise interest rates had been taken on the basis of the assessment of the risks to price stability arising from monetary and credit growth, and import, oil, and non-oil commodity price increases.
(2) The initial announcement suggesting the possibility of buying back Treasuries was made in August 1999.

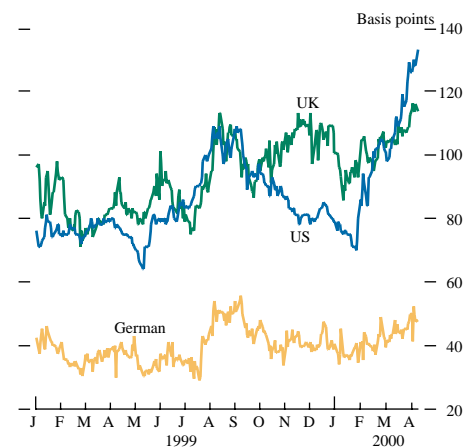
Chart 8
US Treasury yield curve slope and net government borrowing



Source: IMF.

(a) Ten-year Treasury yield minus three-year Treasury yield.

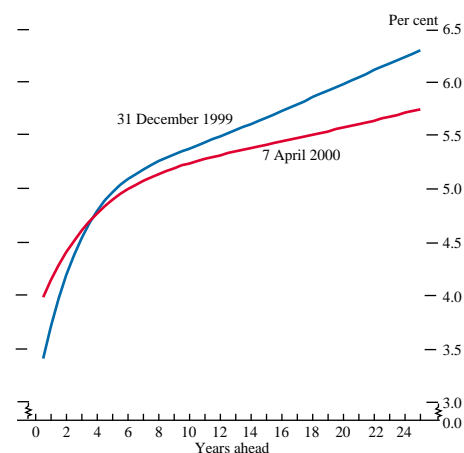
Chart 9
Ten-year swap spreads^(a)



Source: Bloomberg.

(a) Calculated by subtracting the nominal par government bond yield from the same-dated swap rate.

Chart 10
German zero-coupon yield curve^(a)



(a) Derived using the Svensson curve-fitting technique.

government debt,⁽¹⁾ the buy-back programme was expected to target securities with longer maturities. Consequently, after 20 January, yields fell by most at the longer end of the yield curve. In addition, Chart 8 suggests that there has historically been a relationship between net government borrowing and the slope of the yield curve, with the curve becoming more inverted as net borrowing declines. Two factors may help to explain this relationship. First, the government's fiscal position tends to improve, and net government debt issuance to decline, when economic growth is strong. Official short-term interest rates are often rising in such circumstances, pushing up the yields on short-maturity securities relative to those on longer-maturity bonds. And second, supply is a more powerful influence on yields at the longer end of the curve, given that there are relatively few readily available fixed-income substitutes and that very long duration bonds can only be generated through new issuance. In contrast, over the medium term, there is a ready supply of shorter-duration bonds, since the residual maturity of all bonds diminishes with the passage of time.

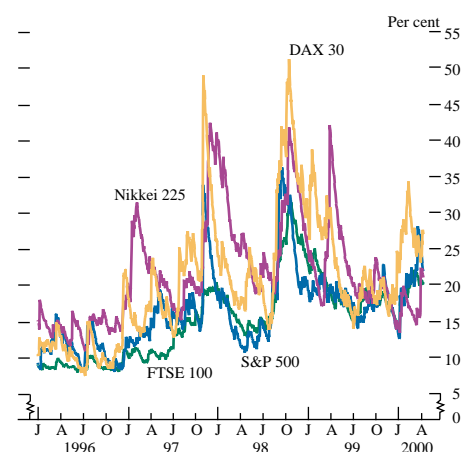
These changes in perceptions about the future supply of Treasuries have made it more difficult to derive reliable information about interest rate expectations from the Treasury market. In addition, the market now views Treasury notes and bonds as less reliable benchmarks for the pricing of other assets such as swaps and corporate bonds. Consequently, the swap curve has become the more widely used benchmark both for the pricing of other asset classes and for observing market interest rate expectations. Between 31 December and 7 April swap spreads over Treasuries increased by 10 basis points at the five-year maturity and by more than 50 basis points at the ten-year maturity (see Chart 9). A large part of this widening of spreads coincided with the fall in Treasury yields. Swap rates themselves were little changed at 10 and 30-year maturities over the period, and the five-year swap rate increased by around 10 basis points.

As in the United States, the euro-area yield curve flattened during the period (see Chart 10). Between 31 December and 7 April, the yield on two-year German government securities rose by around 10 basis points, while the 30-year yield fell by more than 50 basis points. Yields on shorter-maturity securities were influenced by similar factors to those that had moved euribor futures interest rates. At the same time, prospective falls in net issuance of euro-area government securities exerted downward pressure on yields at all maturities—government budget deficits for the euro-area economies are widely expected to continue to decline relative to GDP. Additionally, the sharp falls in the yields of longer-dated US Treasuries narrowed their spread over euro-area government securities of similar maturities, making the latter more attractive to market participants and causing the yield curve in the euro area to flatten further.

Yields on all maturities of Japanese government bonds (JGBs) rose modestly during the period, with the exception of very long-dated issues. By the end of the period, 10 and 30-year nominal yields stood at around 1.7% and 2.0% respectively. Throughout the quarter yields were influenced by supply considerations. For instance, yields rose after the sale of ten-year JGBs in early

(1) See US Treasury Secretary Summers' announcement on the introduction of debt buy-backs on 13 January 2000.

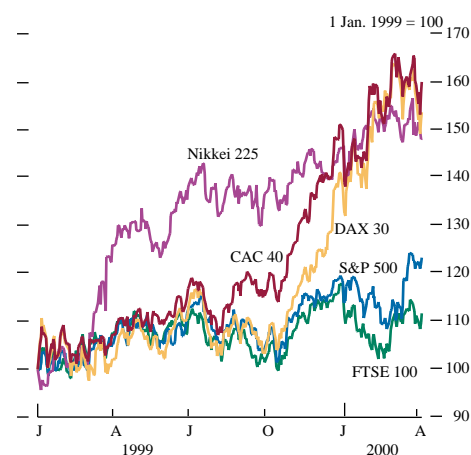
Chart 11
Volatility of international equity indices^(a)



Sources: Bank of England and Primark Datastream.

(a) 252-day rolling exponentially weighted moving averages.

Chart 12
Selected world equity indices



Sources: Bank of England and Primark Datastream.

Table B
International equity market performance

Percentage changes from previous period, in local currencies

	1998	1999			2000
	Year	H1	Q3	Q4	Q1 (a)
United States					
S&P 500	26.7	11.7	-6.6	14.2	3.2
Dow Jones 30	16.1	19.5	-5.8	11.2	-3.4
Nasdaq	39.6	22.5	2.2	48.2	9.3
Europe					
CAC 40 (France)	31.5	15.1	1.2	29.8	5.9
Dax (Germany)	17.7	7.5	-4.3	35.1	8.1
Dow Jones Euro Stoxx 50	32.0	13.4	-3.1	33.6	7.2
FTSE 100	14.6	7.4	-4.6	14.9	-5.2
Japan					
Nikkei 225	-9.3	26.6	0.4	7.5	7.0

Source: Bloomberg.

(a) 31 December 1999–7 April 2000.

January; yields fell in the run-up to the sale of a five-year JGB in early February on market confidence that strong demand would emerge for the new stock, but rose afterwards on an unexpectedly low bid-to-cover ratio; and yields rose in the middle of March on news of a forthcoming ten-year JGB auction.

Equity market developments

World equity prices became more volatile in the first quarter, although they remained less volatile than in autumn 1998 (see Chart 11). The FTSE 100 index fell by more than 5% during the period. The performance of the other major market indices was mixed (see Chart 12 and Table B), with the Dow Jones falling and the S&P 500 posting a moderate increase, while the Nikkei, DAX and CAC indices all added to the strong gains they recorded in 1999 Q4. The Nasdaq index (which includes a relatively large number of IT stocks) and the smaller IT indices in Europe were particularly volatile, rising rapidly during January and February, and falling substantially during March and early April (see Chart 13).

The most recent upsurge in price volatility has been attributed to increasing investor uncertainty about the valuation of 'new economy' stocks (which are primarily in the IT, media and telecommunications sectors). Some investors have re-allocated their equity holdings towards 'old economy' stocks (ie the longer-established blue-chip firms). The volatility of technology stocks increased sharply in March and early April. On 3 April, the Nasdaq index posted its fourth-largest daily percentage price fall of the past 30 years (-7.6%), partly in reaction to the court ruling in Microsoft's anti-trust case. Daily price volatility was also high for the smaller European technology indices. Correlations between the prices of 'old economy' and 'new economy' indices fell sharply in the United States in the period to 7 April, but not in the other major markets.

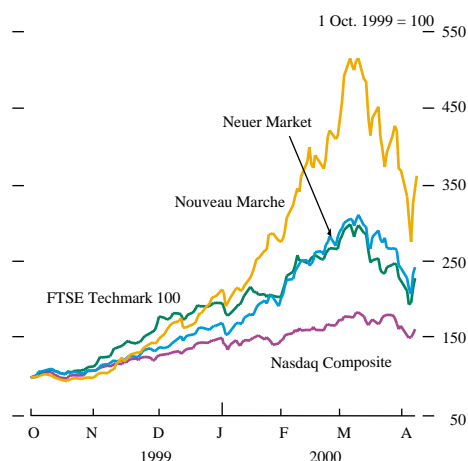
Much of the observed divergence between old and new economy indices over the past year can be attributed to strong investor appetite for Internet-related companies and a switch away from traditional value funds towards high-growth funds. However, a more detailed analysis of sub-indices reveals that the current asymmetries across industry sectors are not particularly unusual. For example, more than 20% of the FTSE All-Share index's 39 industry sectors showed positive 'excess' returns of 30% or higher during 1999.⁽¹⁾ But asymmetry was also prominent in the late 1980s—during 1985–89, 22% of the sectors had 'excess' returns of more than 30%, compared with 25% during 1995–99. The degree of asymmetry in 1999 was unusual, however; the average 'excess' return for the three best-performing sectors was 111% in 1999, well above the comparable returns in the 1986–89 period.

Several of the main indices changed composition during Q1, sometimes as a result of mergers (eg Vodafone-Mannesmann), in other instances following replacement of incumbent companies by new economy stocks.

On 7 April the FTSE 100 index closed at 6570, down 5.2% from its level at the end of December 1999; the All-Share index fell

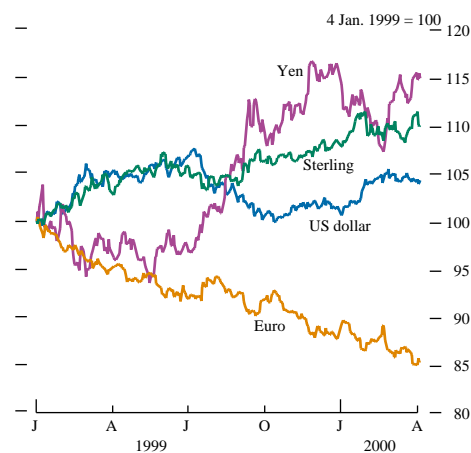
(1) Excess returns were calculated as the difference between the sectoral return and the main index return; the 30% cut-off was chosen arbitrarily.

Chart 13
Major IT indices



Sources: Bank of England and Primark Datastream.

Chart 14
Effective exchange rate indices



Sources: Bank of England and Bloomberg.

Table C
Ten-year swap rates

	Per cent		Change (basis points)
	31 Dec. 1999	7 April 2000	
United States	7.17	7.14	-3
Japan	2.04	2.01	-3
Euro area	5.79	5.66	-13
United Kingdom	6.49	6.32	-17

Sources: Bank of England and Bloomberg.

by 3.8% over the period. The heaviest losses were sustained by the forestry and steel and other metals sectors. However, small and medium-sized firms fared better—the FTSE 250 index ended the period 0.25% higher, while the SmallCap rose by 5.9%.

Foreign exchange markets

Over the period, the dollar and sterling trade-weighted exchange rate indices (ERIs) appreciated by 2.7% and 1.6% respectively; the yen ERI was volatile and ended the period 1.1% below its starting-level; and the euro ERI depreciated by 1.1% (see Chart 14). In terms of its main bilateral exchange rates, sterling continued to appreciate against the euro, moving below £0.6060 at the end of the period. At the same time, the pound depreciated slightly against the US dollar and the yen. The principal feature in sterling's appreciation over the period was thus the general depreciation experienced by the euro. Between the beginning of 1999 and 7 April 2000, the pound appreciated by 17.3% against the euro.

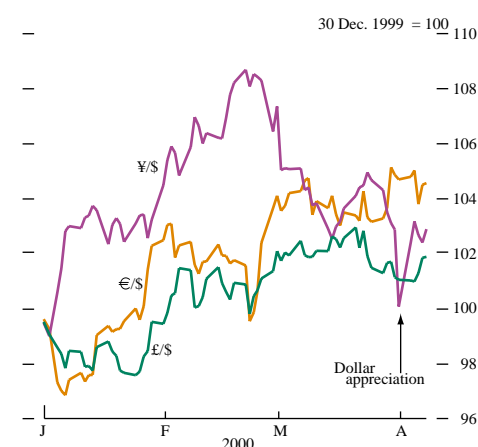
When foreign and domestic interest rate expectations are constant, and relative risk premia and equilibrium exchange rates are unchanged, nominal exchange rates might be expected to follow a path determined by existing interest rate differentials. For example, if sterling interest rates are higher than those abroad, sterling would be expected to depreciate, thereby ensuring that investors are indifferent between holding domestic and foreign currency denominated assets. In practice, however, exchange rate movements are often not consistent with the path implied by existing interest rate differentials, largely because of changing expectations of future interest rates and future equilibrium exchange rates.

As has already been mentioned, US market-determined interest rates at most maturities increased by more, or fell by less, than comparable interest rates in the United Kingdom and euro area, thereby widening interest rate differentials in favour of the United States. In addition, expectations of future UK interest rates as measured by futures contracts and swap rates generally fell by more than comparable euro-area interest rates, thereby narrowing the expected interest rate differential between UK and euro-area interest rates. Table C illustrates one measure of interest rate differentials, namely ten-year swap rates.

The widening in interest rate differentials in favour of the United States and the associated larger upward revisions to projections of US growth (see Table A) may help to explain why the dollar strengthened against all the other major currencies over the quarter (see Chart 15). Chart 16 shows that changes in the dollar-sterling exchange rate were particularly closely correlated with changes in interest rate differentials during the first quarter. By contrast, the euro's depreciation against both the dollar and sterling during the period appears to have been greater than can be explained by movements in interest rate differentials alone, suggesting that other factors were also important.

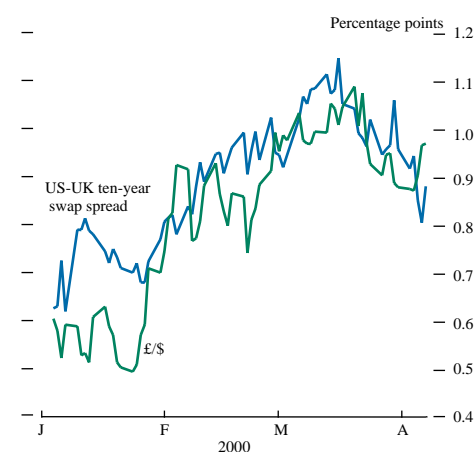
Taking a longer-term perspective, Chart 17 shows the extent to which cumulative changes in relative interest rate differentials may explain cumulative changes in the euro ERI. As can be seen, changes in interest rate differentials appear to have been only a

Chart 15
US dollar exchange rates



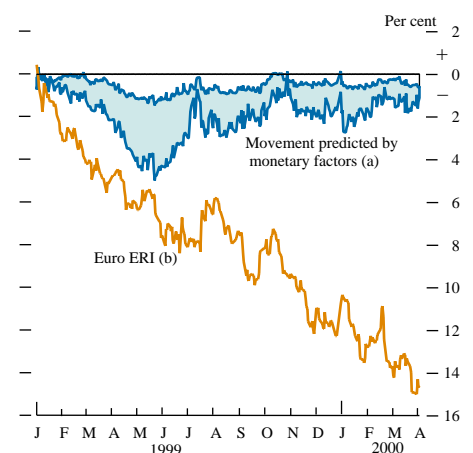
Sources: Bank of England and Bloomberg.

Chart 16
Movements in interest rate differentials and the £/\$ exchange rate



Sources: Bank of England and Bloomberg.

Chart 17
Impact of monetary policy news on the euro ERI



(a) The width of the band is dependent on assumptions about the speed of the monetary transmission mechanism. For further details see the November 1997 *Quarterly Bulletin*, pages 377–89.
(b) Using an effective index including only the G7 countries.

weak explanatory factor. Considerations other than changes in interest rate differentials are therefore needed to explain the euro's depreciation. One such factor might be changes in the market's expectation of the long-run equilibrium exchange rate of the euro. Chart 18 compares the spot rate for euro-sterling against one-year Consensus forecasts for this exchange rate. Though forecasters seem to have been repeatedly surprised by the euro's depreciation, they have continued to expect the euro to appreciate. This suggests that the market expectation of the long-run equilibrium euro-sterling exchange rate remains higher than the spot rate. Nevertheless, longer-range forecasts suggest some tentative evidence of a downward revision to market expectations of the equilibrium value of the euro against the pound.

In addition, the euro's depreciation against the other major currencies may partly reflect a decrease in the relative willingness of market participants to hold euro-denominated assets. In particular, some market participants have reported a reduction over the quarter in the number of fund managers who were overweight in euro-denominated assets relative to their benchmarks (following a build-up of such 'long' positions in mid to late-1998). Many of these long positions in euro assets were adopted as part of portfolio reallocation strategies ahead of the introduction of the euro.

Market participants continue to identify foreign exchange flows from actual and anticipated cross-border mergers and acquisitions as important influences on sterling. However, the extent to which these flows were supportive of the pound in 2000 Q1 is ambiguous. In particular, the largest such transaction in the quarter was the agreed merger between Vodafone Airtouch and Mannesmann, which involved financing flows of around €170 billion. Given that Vodafone purchased Mannesmann, this deal might ordinarily have been expected to support the euro. However, the foreign exchange implications of this merger were complex and its impact consequently difficult to analyse.

Sterling markets

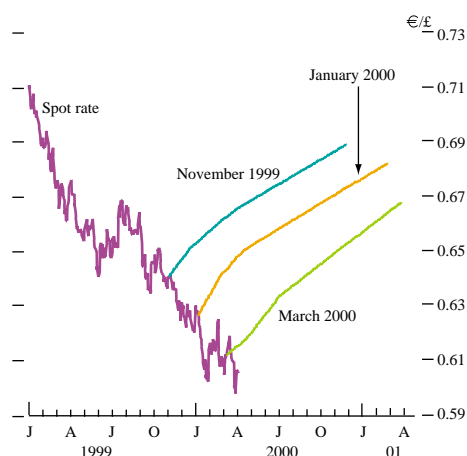
Short-term interest rates

The Monetary Policy Committee (MPC) raised the Bank's repo rate by 25 basis points on two occasions during the review period: on 13 January and on 10 February. The official rate was left unchanged after the March and April meetings.

Ahead of the January, February, and April meetings, there was some expectation, apparent in short-term interest rate futures and from survey evidence, that the Bank's repo rate would be raised. In the case of the January meeting, a fall in interest rates implied by short sterling contracts immediately after the decision suggests that some market participants were expecting a rate rise exceeding 25 basis points.

The decision by the MPC to raise the Bank's repo rate to 6% on 10 February, and the subsequent decision to leave the rate unchanged on 9 March, appear to have been largely anticipated by the markets at the time. Among the 34 private sector economists who participated in a Reuters poll ahead of the February meeting, there was a 72% mean probability attached to the prospect of a 25 basis point increase in the Bank's repo rate. Ahead of the March meeting, the equivalent probability attached to a no-change

Chart 18
Consensus forecasts for euro-sterling



Source: Consensus Economics.

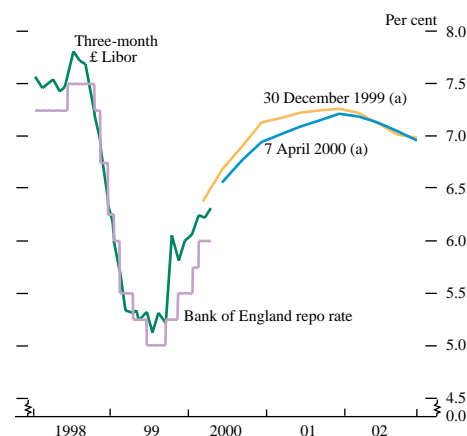
Table D
Expectations ahead of MPC meetings

MPC meeting	13 Jan.	10 Feb.	9 Mar.	6 April
Reuters poll mean expected rate change	+18	+18	+7	+11
Actual change in Bank repo rate	+25	+25	No change	No change
Market reaction: change in front short sterling implied rate (a)	-4	No change	No change	-4

Sources: Reuters and Bloomberg.

(a) Close of business on the day of the MPC decisions versus close of business the day before.

Chart 19
UK interest rates



Sources: Bank of England and Bloomberg.

(a) Interest rates implied by the short sterling futures contracts on the dates specified. From April 2000, the x-axis relates to contract expiry dates.

outcome was 71%. In each case, there was no price movement in the short sterling futures market immediately following the decision (see Table D).

Market participants were less certain, however, about the MPC’s likely actions in April—expectations were split between no change and a 25 basis point rise, with a slight bias towards the former. A Reuters poll published ahead of the meeting attached a 58% mean expectation to no change. Reflecting this uncertainty, the decision to maintain the Bank’s repo rate at 6% led to a small fall in short-term interest rates.

Despite the increases in the Bank’s official rate and rising near-term interest rate expectations in the United States, yields implied by short sterling interest rate futures fell modestly during the review period (see Chart 19). A similar fall was also observed in forward yields derived from the gilt and gilt repo markets (see Chart 20).

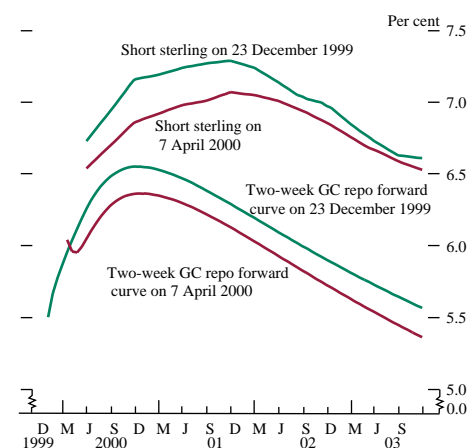
In the first two weeks of the year, sterling interest rate expectations increased, broadly in line with the United States and the euro area (see Chart 2). However, between 18 January and 20 March, there was a decline in UK rate expectations—the rate implied by the June 2000 short sterling futures contract fell by around 40 basis points, in contrast to comparable rates implied by US and euro futures contracts, which rose by 3 and 11 basis points respectively. Domestic considerations, therefore, had a strong influence on UK markets during this period. Much of the fall in sterling market interest rates related to a combination of weaker-than-expected price pressures (for example, the UK producer input price data on 14 February showed a fall of 1.0% in January against an expected rise of 0.2%); weaker-than-expected industrial and service sector output data; a sustained high level of sterling; and market interpretations of MPC minutes and the February *Inflation Report* (published on 17 February).

Money market rates fell after the publication of the minutes of the January MPC meeting when it was reported that eight members had voted for a rise of 25 basis points and one for a rise of 50 basis points. Market participants attached a somewhat stronger probability to the possibility of a 50 basis points rise. Similarly, the February *Inflation Report* was interpreted as suggesting that there were fewer rate rises in prospect than previously anticipated. Speeches by MPC members also influenced market interest rates. Furthermore, near-term interest rate expectations fell despite the stronger-than-expected January and February average earnings data.

In the second half of March, interest rates rose after the publication of the UK Budget and following a sharp rise in interest rates implied by eurodollar futures. Although the Budget was generally viewed as neutral in the short term, the market paid attention to the move towards net borrowing in 2002 and 2003. As a result of this and the rise in US interest rate expectations, rates implied by the 2001 and 2002 short sterling contracts rose by about 30 basis points in the week following the Budget (see Chart 2).

Chart 20 illustrates that gilt forward rates in maturities out to two years declined by less than implied rates from short sterling futures contracts of equivalent maturity over the review period, and also that the two markets continued to imply different levels for the peak in rates. Similarly, the fall in short sterling implied rates was

Chart 20
Short sterling futures and two-week GC repo forward curves



Sources: Bank of England and Bloomberg.

Table E
Summary of interest rate expectations (selected dates)

Per cent	5 Jan.	29 Mar.	Change (basis points)
Dec. 2000			
Short sterling (a)	7.38	6.95	-43
Forward gilt yield (b)	6.68	6.47	-21
Poll of Economists (c)	6.32	6.43	+11
Dec. 2001			
Short sterling (a)	7.47	7.23	-24
Forward gilt yield (b)	6.54	6.28	-26
Poll of Economists (c)	6.10	6.06	-4
Peak			
Short sterling (a)	7.47 Dec. 2001	7.23 Dec. 2001	-24
Forward gilt yield (b)	6.70 2001 Q1	6.47 2001 Q1	-23
Poll of Economists (c)	6.52 2000 Q3/4	6.52 2000 Q2	0

Sources: Bloomberg and Reuters.

- (a) Implied three-month Libor rate.
 (b) Implied two-week forward rate.
 (c) Implied official Bank of England repo rate.

not fully matched by revisions to economists' published forecasts of official interest rates (see Table E).

The differences between the movements are likely to relate to a number of factors, as short sterling futures, which are priced off three-month Libor, are prone to influences in addition to expectations of the Bank's official repo rate (which is a two-week secured rate). These include:

- credit risk (short sterling contracts use unsecured Libor rates as a benchmark);
- the amount of hedging of interest rate risk (which may vary over time);
- risk aversion and the degree of uncertainty about future interest rates; and
- futures market liquidity.⁽¹⁾

Between end-January and end-March, both the published data and market anecdote suggest that the last three of these influences contributed to much of the convergence of implied interest rate expectations.

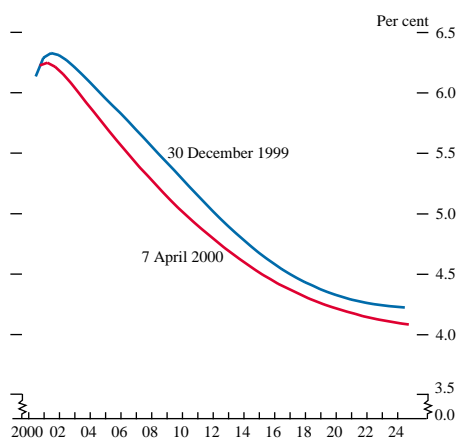
The process through which market participants use the short sterling market (or close-substitute derivatives) to hedge assets, and the associated impact on term interest rates, is complicated. Over the review period, some market contacts noted that there was a shift in household preferences away from fixed-rate mortgages to variable-rate mortgages. When there is an increase in the demand for fixed-rate mortgages, the mismatch between mortgage lenders' assets and liabilities generally increases, as these institutions are largely funded by floating-rate liabilities. Mortgage lenders may choose to offset the associated interest rate risk by either selling short sterling contracts, or by conducting an equivalent transaction in a similar derivative (for example, interest rate swaps or forward-rate agreements). Other things being equal, this process will result in upward pressure on short sterling implied rates. Over the period, contacts reported a fall in such hedging activity, which was said to have alleviated the upward pressure on implied futures rates.

Market contacts also note that the desire to hedge is greater when uncertainty about future interest rates is high and when official rates are expected to rise. Furthermore, the impact of hedging activity on interest rate futures is usually greater in the short term if the market is illiquid.

In addition to the fall in average interest rate expectations in Q1, there was also an underlying decline in interest rate uncertainty. For example, the implied volatility of the short sterling futures contract 18 months ahead (a measure of the market uncertainty derived from option prices) fell by more in Q1 than did the equivalent contract in 1999 Q4. There was also a rise in the number of short sterling futures contracts being traded, which may suggest there was some increase in liquidity. As an illustration, the total number of contracts outstanding in the short sterling market

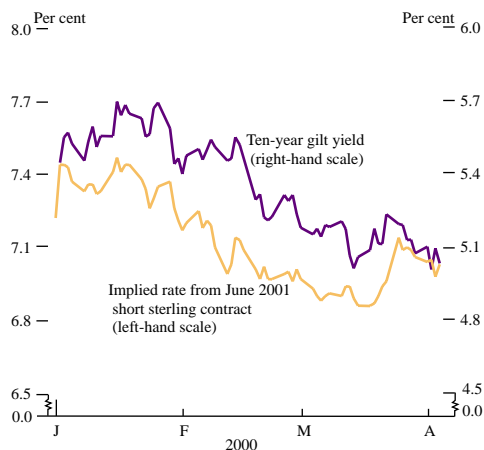
(1) The liquidity of close-substitute derivatives, such as interest rate swaps, is also important.

Chart 21
Gilt yield curve^(a)



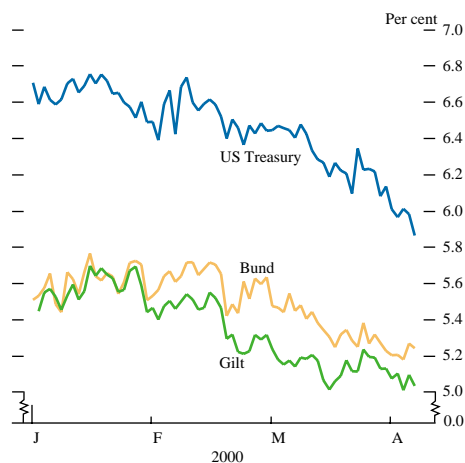
(a) Derived using the Bank's VRP curve-fitting technique.

Chart 22
UK interest rates



Sources: Bank of England and Bloomberg.

Chart 23
Ten-year bond yields^(a)



(a) Derived from Svensson curve-fitting technique.

(open interest) increased by 10% over 2000 Q1, whereas it fell by 22% during 1999 Q4. Similarly, turnover in short sterling contracts was 15% higher in 2000 Q1 than in 1999 Q4. While the liquidity picture in Q4 was undoubtedly influenced by the transfer of the short sterling futures market from open outcry onto LIFFE's electronic trading platform, and by the approach of the millennium date change, it seems reasonable to conclude that liquidity in the short sterling futures market improved in Q1.

Long-term interest rates

The gilt yield curve shifted down by around 15 basis points over the review period (see Chart 21). Ahead of the Budget and the Debt Management Report (DMR), both published on 21 March, changes in bond yields were predominantly influenced by domestic news about expectations of future nominal interest rates and, on occasion, international developments. Bond yields reacted to the data and MPC-related news mentioned in the short-term interest rate section above, and were highly correlated with movements in short-term rates (see Chart 22).

Influential international events included the decline in euro-area bond yields that followed the ECB's decision to raise their official rate by 25 basis points on 16 March, and the rise in US interest rate expectations that followed the publication of the February FOMC minutes on 23 March. However, the supply-related news about the US Treasury bond market had little impact on the gilt market (see Chart 23).

There were three further items of UK-specific news relating to the supply and demand for gilts that influenced gilt yields over the review period. The first of these was the Appeal court ruling against the Equitable Life Assurance Society on 20 January, which deemed that it was unlawful for an insurer to reduce bonuses to policyholders opting for their guaranteed annuity. This led many market participants to anticipate a higher associated demand for long gilts from life assurance companies, thereby putting downward pressure on long gilt yields.

The other two supply-related influences were the Budget and the Debt Management Report. At the short end, gilt yields were influenced by two pieces of news. First, the planned move to net borrowing by the government in 2002/03 led to a rise in interest rate expectations and an associated increase in short gilt yields. This was partially offset, however, by the intention noted in the DMR not to issue short-dated gilts in financial year 2000/01 (see Table F).

Medium and long-dated gilt yields rose because the DMR included a larger-than-expected figure for gross gilt issuance in the next financial year (£12.2 billion against an average expectation prior to the Budget of about £11 billion), and was more heavily skewed to long-dated maturities than the market had anticipated. Two aspects of the government's financing plans were not fully anticipated by the market: first, the Debt Management Office (DMO) will be refinancing foreign currency borrowing that matures in the next financial year by additional gilt issuance (amounting to £3.5 billion); and second, the DMO plans to buy back some relatively less liquid stocks (£3.5 billion in value) in the three to eight-year part of the curve.

Table F
Government financing in 2000/01

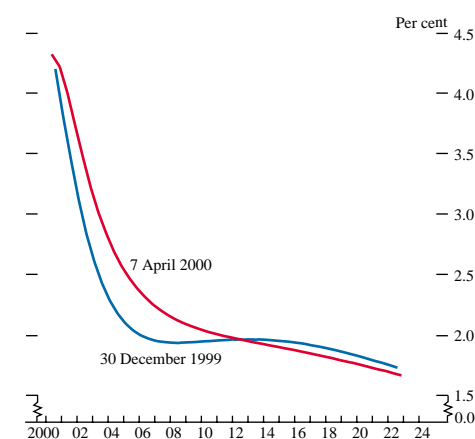
£ billions	
General government net cash requirement forecast	-4.9
Expected net financing of official reserves (a)	3.5
Gilt redemptions	18.6
Debt buy-backs	3.5
Gilt sales residual from 1999/2000	-9.5
Financing requirement	11.2
Less net financing from:	
National Savings	-0.8
Treasury Bills and other short-term debt (b)	-0.2
Gross gilt sales required	12.2
of which:	
Ultra-short conventionals (1–3 years)	0
Short conventionals (3–7 years)	0
Medium conventionals (7–15 years)	2.2
Long conventionals (>15 years)	6.5
Index-linked gilts	3.5

Note: Figures may not sum due to rounding.

Source: Debt Management Report, 21 March 2000.

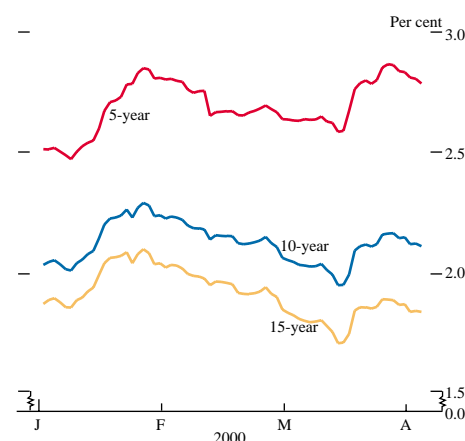
- (a) The reserves require financing in 2000/01 to replace €2 billion of euro notes, €2.5 billion of eurobonds and expiring forward contracts.
(b) Financing of cash deposits at the Bank of England.

Chart 24
Index-linked gilt yield curve^(a)



(a) Derived using the VRP curve-fitting technique.

Chart 25
Selected index-linked gilt yields^(a)



(a) Derived using the VRP curve-fitting technique.

Gilt yields increased following the Budget and the DMR: between 20 and 22 March, the 5-year benchmark gilt yield rose by 6 basis points, the 10-year yield by 12 basis points and the 30-year yield by 9 basis points.

Index-linked gilts

Real yields on index-linked gilts⁽¹⁾ rose for short and medium-dated maturities (see Chart 24), in contrast to the fall in conventional gilt yields over the same period. The difference between the two is reported by market participants to have been more closely related to technical factors rather than to any change in inflation expectations. At the long end of the real yield curve, yields fell by about 5 basis points, slightly less than the fall in long-dated conventional yields.

There was one index-linked auction during the period (see below). Market contacts noted an adjustment in portfolios ahead of the issue, which, in addition to the rise in nominal interest rate expectations at that time, appeared to raise index-linked yields across the curve (see Chart 25). Contacts reported that the rise in short-dated index-linked yields probably also reflected the weakness in the 2% Index-linked Treasury Stock 2006 bond. Demand for this bond has declined ahead of next year, when it will fall out of the benchmark index for index-linked bonds of five years' maturity and above used by institutional investors.

There were two further supply-side influences on the index-linked gilt market during the review period, both of which supported real yields. First, the comparatively low real rates encouraged two companies to issue sterling index-linked bonds in late March (see below); and second, the DMR indicated a higher level of planned issuance (£3.5 billion) of index-linked bonds than the market had anticipated. Despite these supply influences, however, long-term real yields have remained low due to the sustained demand from institutional investors.

Gilt auctions

The conventional auction originally scheduled for 29 March 2000 was cancelled following confirmation of the reduced financing requirement in the November 1999 Pre-Budget Report. However, an auction of £350 million 2½% Index-linked Treasury Stock 2024 was held on 26 January and a switch auction was held on 9 February, in which £1.5 billion of (nominal) 8% Treasury Stock 2015 was exchanged for £1.6 billion of 6% Treasury Stock 2028. This helped to meet the strong institutional demand for ultra-long gilts and slightly extended the average duration of outstanding conventional gilts from 8.7 to 8.8 years.

Other sterling bond issues

Gross sterling bond issuance (other than gilts) was £14.9 billion in Q1, broadly similar to the £14.6 billion issued in Q1 last year, and nearly 40% higher than in 1999 Q4 (see Chart 26). Issuance had been quite subdued in Q4, though was still higher than expected, as some borrowers had either brought forward or delayed their funding to avoid uncertain market conditions at the year-end. Bond issuance increased steadily from late January as improved interest rate sentiment pushed corporate yields down. Within the Q1 total,

(1) As generated by the Bank's VRP curve-fitting technique.

Chart 26
Sterling non-government bond issuance

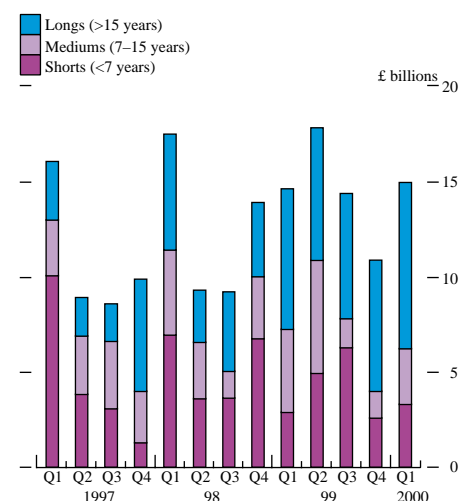
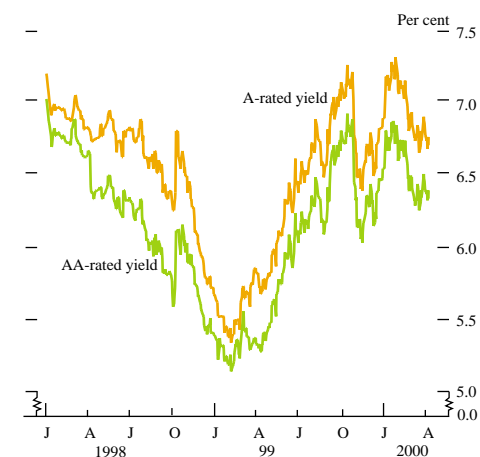


Chart 27
Ten-year corporate yields



Source: Bloomberg.

Table G
Sterling bond issuance in 2000 Q1

	Number of issuers	Amount (£ billions)			
		Total	By credit rating:		
			AAA	AA/A	BBB/ and below
Fixed-rate issues					
UK corporates	17	3.5	0.7	1.5	1.3
UK financials	12	2.1	0.1	1.4	0.6
Supranationals	4	2.2	2.2	0.0	0.0
Overseas borrowers	29	4.1	2.2	1.6	0.3
Total	62	11.9	5.2	4.5	2.2
FRNs					
UK corporates	3	0.2	0.1	0.1	0.1
UK financials	7	1.9	1.1	0.8	0.0
Overseas borrowers	4	0.9	0.0	0.9	0.0
Total	14	3.0	1.2	1.8	0.1

Sources: Bank of England, Moody's, and Standard and Poor's.

fixed-rate issuance was £11.9 billion and floating-rate issuance was £3 billion. Both amounts were very similar to their levels in Q1 last year.

The largest part of Q1 sterling bond issuance was of longer-dated maturities (£8.7 billion), with medium and short issuance more subdued at £2.9 billion and £3.3 billion respectively. Issuers have tended to sell more long-dated bonds over the past year (see Chart 26), as the limited supply of long-maturity gilts has encouraged demand for corporate bonds.

Fixed-rate sterling bond issuance by UK firms in Q1 totalled £5.6 billion, around three quarters of its level in 1999 Q1. Part of the reason for this decline may have been the rising cost of bond finance over the past year (see Chart 27). Furthermore, domestic borrowers did not substitute floating-rate for fixed-rate debt issues—floating issuance by domestic firms totalled £2.1 billion in Q1, £600 million less than in Q1 last year (see Table G).

Overseas issuers were more active in the sterling market in Q1. They issued £6.3 billion of bonds (see Table G), compared with £3.6 billion a year ago; about £1 billion of this was by US companies to fund UK operations (including Ford, Heinz, Procter and Gamble, and McDonalds). Swap spreads also encouraged issuance by AAA-rated supranationals that can issue in sterling and then enter the swap market to receive fixed income at a higher rate than they have to pay on their own fixed-rate sterling debt (see the box on pages 130–31 which explains how the currency swap process works).

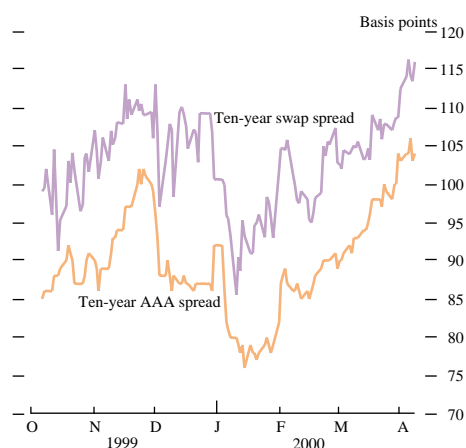
UK companies issued proportionately more in the euro and dollar bond markets. In Q1, domestic firms issued the combined equivalent of £11.4 billion in these two markets, almost 50% more than their issuance in the sterling market (see Table H). In contrast, in Q1 of last year, UK firms raised about two thirds of their bond financing in the sterling market. Some of the explanation for the increase in foreign currency issuance this year relates to Vodafone's acquisition of Mannesmann. To part-finance this deal, Vodafone issued three US dollar denominated bonds equivalent to £3.3 billion. Euro issuance was similarly boosted by the Royal Bank of Scotland raising debt (equivalent to £0.5 billion) to help finance its purchase of NatWest. Issuance in other currency markets may also be a complement, rather than a substitute, for sterling bond issuance. For example, UK companies may be seeking to hedge their euro or dollar-denominated assets or income streams. The building-up of European and US operations will tend to increase the incentive for UK firms to raise some of their financing in euros and dollars.

Chart 28 compares the ten-year yield for AAA-rated issuers with that for gilts. The spread started to fall in late December, as concerns about disruptions to financial markets over the year-end diminished. The spread then remained steady through most of January. Through the rest of Q1, gilt yields fell by more than corporate yields and the spread widened. Market participants suggested that this mainly reflected the lack of supply of UK government bonds. Swap spreads followed a very similar trend, with rising spreads attributed to conditions in the gilt market rather than perceptions about the credit quality or risk aversion of swap market participants.

Table H
Bond issuance by UK firms

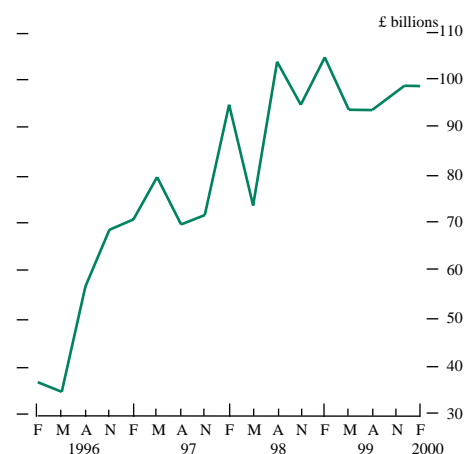
	Sterling or sterling equivalent, in billions:		
	US \$ bond market	Euro bond market	Sterling bond market
1998	8.9	3.8	20.2
1999	8.9	10.9	33.5
1999 Q1	1.6	3.7	10.8
Q2	3.4	0.4	11.2
Q3	1.1	3.5	7.3
Q4	2.8	3.3	4.2
2000 Q1	7.0	4.4	7.7

Chart 28
Ten-year credit spreads versus gilts



Source: Bloomberg.

Chart 29
Gilt repo outstanding



Source: Bank RSL quarterly survey.

The relatively low level of yields on index-linked gilts (the ten-year yield, for example, has been some 190 basis points below the equivalent yield on a US Treasury inflation-linked bond) encouraged a few companies to issue inflation-linked debt in March (two companies issued £400 million in total). These bonds are especially attractive to discretionary fund managers who are able to buy a wider variety of assets than just index-linked gilts, with the corporate inflation-linked bonds yielding as much as 200 basis points more than the equivalent-maturity index-linked gilts.

Gilt repo

According to the Bank's latest survey, the size of the gilt repo market was little changed between the end of November 1999 and the end of February 2000, with the amount outstanding having fallen by £1 billion to £99 billion (see Chart 29). Within the total, however, there was a re-balancing towards shorter-maturity transactions. In particular, the amounts outstanding for one to three-month maturity gilt repo fell by £7 billion while the outstanding stock of overnight repo increased by £9 billion. Market participants said that the November data had been influenced by Y2K factors. The recent decline in the amounts outstanding of one to three-month maturities reflected a return towards historically more normal levels. Similarly, the spread between GC repo and interbank rates at three months' maturity fell to 10–20 basis points during the review period, having widened to more than 50 basis points in November as a result of Y2K-related considerations.

Market operations

Open market operations and sterling Treasury bill issuance

The stock of money market refinancing held at the Bank averaged £13 billion in January; daily money market shortages averaged £1.4 billion, up from £0.7 billion in December (see Chart 30). The shortages were generally small in the first half of the month and there were money market surpluses on two days. In February, the stock of money market refinancing was unusually high at £22 billion; consequently, the average daily money market shortage rose to £2.3 billion.

Two factors contributed to the rise in the size of the daily shortages in the second half of January and February: the seasonal rise in the government's tax receipts (see the CGNCR data in Table I) and the maturity of the Bank's longer-term repo facility. The latter had been available from mid-October in order to reinforce market confidence that liquidity provision would be sufficient over the year-end. Consequently, in 1999 Q4 the Bank had provided almost £8 billion of the stock of money market refinancing at a maturity of three months, rather than the usual two weeks. When these longer-term repos were due to mature in January and February, the Bank offered market participants the facility to roll over the refinancing into February and March to aid their liquidity management; there was, however, no demand for this facility.

In anticipation of the larger shortages in January and February, the Bank withdrew the one-month Treasury bill tender from 30 December 1999. The size of the three-month Treasury bill tender remained at £100 million a week throughout Q1 (see Table J). Following the redemption of £5 billion of 9% Conversion Stock 2000 on 3 March, the stock of money market

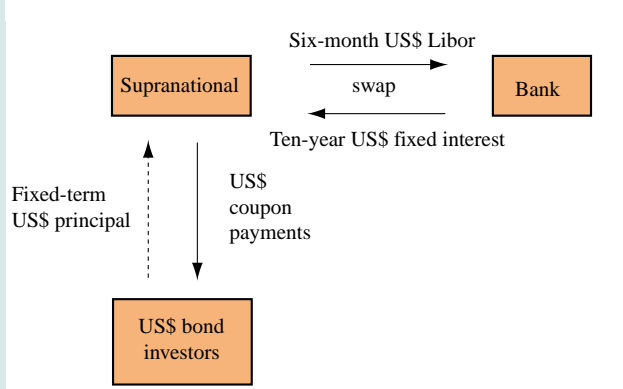
International funding arbitrage

Sovereign, supranational and large corporate bond issuers are able to issue debt in a range of different currencies and use swaps to convert the associated cash flows into other currencies. Since the Russian debt crisis of 1998, swap spreads—the spread of swap rates over government bond yields—have been highly variable and wider in some currencies—notably sterling—than in others. This led some commentators to argue that it may be cheaper to issue sterling bonds and use interest rate and cross-currency swaps to convert the liability to the currency the issuer desires than to issue directly in that currency.

This box investigates the factors that should determine the choice of currency for the bond issuer. In theory, funding arbitrage should ensure that the common-currency costs to a debt issuer of raising funds should be the same, irrespective of the currency in which it chooses to denote its bonds. In reality, however, there can sometimes be cost advantages from issuing debt in one currency and simultaneously swapping the associated cash flows into the currency of choice. This type of arbitrage can occur, for example, if an issuer is less well known to investors in one bond market than in another, or if one market becomes ‘saturated’ by the issuer. Funding arbitrage is therefore most likely to hold for large and well-known issuers, such as governments, supranationals and multinational firms.

To illustrate, assume that a supranational wished to issue ten-year debt and acquire a floating-rate US dollar (US\$) liability. One option would be to issue a ten-year fixed-rate dollar bond and simultaneously enter into a fixed-for-floating US\$ interest rate swap, in which it would receive the fixed ten-year swap rate and pay the floating six-month US\$ Libor rate. This arrangement is shown in Figure 1. The spread over US\$ six-month Libor at which the institution would secure funding would be determined by the difference between the

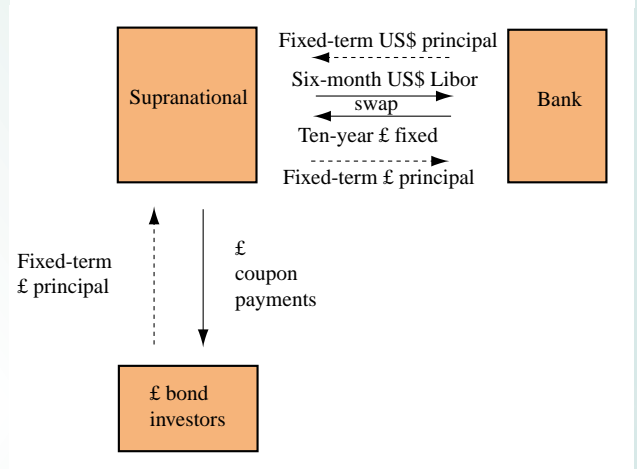
Figure 1
US\$-denominated bond issue with fixed-for-floating US\$ interest rate swap



fixed (par) rates paid on the bond and received on the swap.

Option 2, portrayed in Figure 2, would be to issue a fixed-rate sterling bond and simultaneously enter into a cross-currency fixed-for-floating interest rate swap in which the supranational would receive the fixed swap rate in sterling and pay floating US\$ six-month Libor (in dollars).

Figure 2
Sterling debt with cross-currency fixed-for-floating interest rate swap



This arrangement is essentially equivalent to combining a standard £ fixed-for-floating interest rate swap with a cross-currency basis swap. A basis swap is a contract that exchanges six-month £ Libor (sterling) payments for six-month US\$ Libor (dollar) payments, with an exchange of sterling and dollar principals at the start and end of the contract. Although, in theory, the basis swap should cost nothing as each side of the swap will have the same initial present value, in reality there may be a small cost related to market demand and supply conditions and to reflect the broker’s spread.

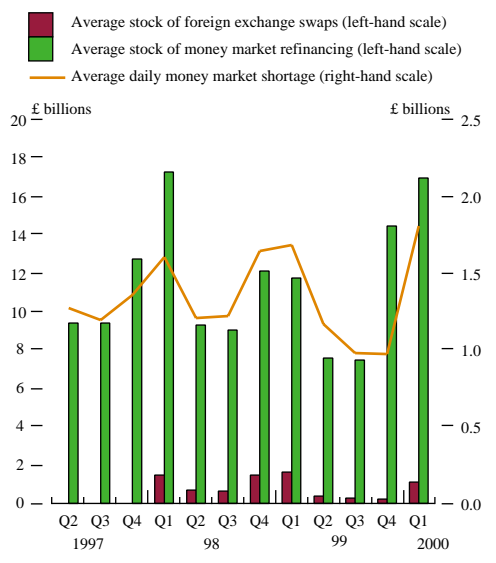
In both cases the supranational ends up paying US\$ Libor. But every six months it also receives the difference between the agreed ten-year swap rate and the coupon rate on the issued bond. For a high-quality issuer this is often a positive amount meaning that the institution achieves floating-rate funding below US\$ Libor, ie Libor minus X, where X is the difference between the swap rate and the par yield at issuance. The key point is that the currency of issue should be chosen on the basis of the difference between the swap rate and the coupon rate the institution would have to pay on a par bond issue in each currency. Choosing to issue in the currency with the largest X and then using swaps results in the cheapest funding. The spread of the swap rate

over the respective government bond yield is not relevant to the calculation.

To compare the relative costs of securing floating-rate US\$ funding for particular supranational issuers, one can look at traded £ and US\$-denominated bonds (with no embedded options) issued by supranationals. When a fixed-rate bond is trading at face value, its coupon represents, by definition, the par yield on the bond. We assume that new debt can be issued on the same terms as existing debt. Then, by comparing the par rate on the bond with the par rate received on a same-currency fixed-for-floating interest rate swap of identical maturity, one can derive the cost of arranging floating-rate funding (relative to the reference floating Libor rate) in the currency of issue. By adding the costs associated with entering a cross-currency floating-for-floating basis swap, one can in turn obtain the relative cost of achieving floating-rate funding in the other currency.

Performing this exercise for a number of £ and US\$ supranationals' bonds with maturity dates between 2007 and 2010, one can calculate the costs of arranging seven to ten-year US\$ six-month floating-rate finance over a number of 'snapshot' dates at which the bonds traded at (or very close to) par. Such calculations generally suggest that the capital market appears to be relatively efficient in the sense that it does not allow large funding arbitrage opportunities to exist for long. Although both swaps spreads and the spreads of high-quality issuers' bond yields over government bond yields change over time, for each currency they tend to track each other closely so that the spread between the swap rate and the par yields remain similar across currencies. Where, temporarily, they do not, an opportunity opens for securing cheaper funding by issuing in one currency and simultaneously entering into a currency swap. Such funding arbitrage opportunities, however, can be expected to disappear as bond issuers exploit them.

Chart 30
Stock of money market refinancing and daily shortages



refinancing fell to an average of £16 billion in March. Daily money market shortages averaged £1.7 billion (see Chart 30).

As in December, short-dated interest rates generally traded somewhat below the Bank's repo rate during the first half of January, largely as a result of relatively small money market shortages. But from the second half of January to mid-March, the sterling overnight index average (SONIA) and the two-week GC repo rate traded closer to the Bank's repo rate (see Chart 31). Towards the end of March, there was a further period in which short-dated market rates traded somewhat below the Bank's repo rate. The Bank responded to this development by increasing slightly the amount by which it was prepared to leave the market short after the 9.45 am round of operations, even when the available refinancing was fully bid by market participants. This led to a narrowing of the spread between short-dated market rates and the Bank's repo rate.

Foreign exchange swaps are also used by the Bank to supply liquidity to the sterling money market (mostly when the money market shortages are large). A daily average of £1.1 billion was outstanding during the quarter (see Chart 30).

The Bank's counterparties continued to make use of euro-denominated eligible securities in Q1. These accounted for an average of 10% of the collateral taken by the Bank in its open market operations during January, February and March (see Chart 32).

The one-month Treasury bill tender was reintroduced from 10 March (see Table J) in order to facilitate a higher stock of Treasury bills in market hands on 3 April, the date of the transfer of responsibility for Exchequer cash management to the DMO (see below). Demand for Treasury bills continued to be strong over the quarter—cover at the tenders averaged around seven times the amount of bills on offer. The average yields were around 13 and 21 basis points below LIBID for the one-month and three-month bills respectively.

Table I
Influences on the cash position of the money market

£ billions; *not seasonally adjusted*

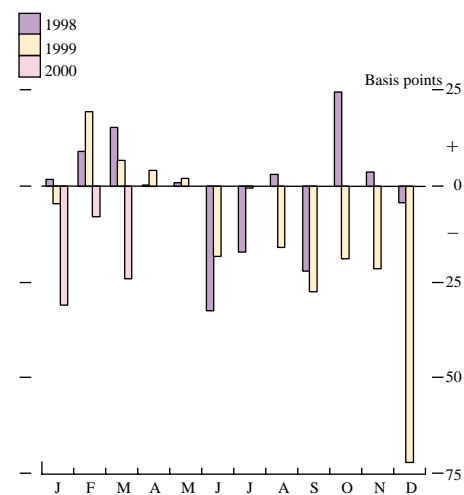
Increase in settlement banks' operational balances (+)

	1999	2000		
	Apr.–Dec.	Jan.	Feb.	Mar.
CGNCR (+)	5.5	-17.1	-1.9	3.8
Net official sales of gilts (-) (a)	-3.8	-0.4	0.1	5.5
National Savings (-)	0.8	0.0	0.0	0.1
Currency circulation (-)	-7.8	6.5	0.2	-2.1
Other	-1.6	3.2	-1.2	1.5
Total	-6.8	-7.9	-2.7	8.8
Outright purchases of Treasury bills and Bank bills	-0.7	0.8	0.0	-0.7
Repos of Treasury bills, Bank bills, EEA bonds, and British Government stock and non-sterling debt	8.9	1.7	3.7	-4.6
Late facilities	-0.3	0.7	-0.7	0.1
Total refinancing	7.9	3.1	3.0	-5.2
Foreign exchange swaps	-1.3	2.6	-0.1	-2.5
Treasury bills: Market issues and redemptions (b)	-0.6	-1.8	0.0	1.5
Total offsetting operations	7.2	7.5	2.9	-9.2
Settlement banks' operational balances at the Bank	0.4	-0.4	0.2	-0.3

(a) Excluding repurchase transactions with the Bank.

(b) Issues at weekly tenders plus redemptions in market hands. Excludes repurchase transactions with the Bank (market holdings include Treasury bills sold to the Bank in repurchase transactions).

Chart 31
Monthly averages of SONIA minus the Bank's repo rate



Exchequer cash management

The DMO assumed full responsibility for managing the Exchequer's daily cash position from 3 April. From 14 January, the DMO had assumed responsibility from the Bank for processing the weekly sterling Treasury bill tender. And, from 14 February, the DMO undertook limited bilateral transactions (mainly in repo and reverse repo) with some of its counterparties, with the intention of smoothing part of the Exchequer component of the Bank's money market forecast.

As the DMO now offsets the Exchequer's cash position with the money market each day, it will no longer use the Ways and Means advance on the Bank's balance sheet to balance its short-term financing needs (but see also comments below). Instead, the DMO aims to achieve a small, unchanged precautionary deposit at the Bank each day. Consequently, the Bank's balance sheet (and hence the Bank's money market forecast) is now more stable and predictable and the money market's need for refinancing from the Bank is no longer influenced by the Exchequer's net cash position.

The DMO announced on 20 April that the planned level for the Ways and Means advance for 31 March 2001 is £15 billion. This was a downward revision from the £17 billion target level contained in the DMR. Because of errors in predicting Exchequer cash flows at the end of the financial year, the balance of the Ways and Means advance was below £15 billion on 31 March 2000. The target level will be achieved by a limited series of transactions between the Bank and the Exchequer in financial year 2000/01.

The Bank will co-operate with the DMO to square the market's end-of-day position when there is a late change to the Exchequer's cash position. When there is a change in the Exchequer's favour, the DMO will not be able to conduct transactions with its counterparties late in the afternoon (because of the closure of settlement systems). The Bank will therefore provide the market with any additional refinancing necessary at its 4.20 pm late repo facility (at a non-penal rate). This additional refinancing will be funded on the Bank's balance sheet by an above-target deposit from the DMO.

The cash management transfer has necessitated a change to the Bank's method of absorbing money market surpluses. The Bank no longer issues Treasury bills (as the proceeds of Treasury bill issuance are now placed back in the market by the DMO). Instead, the Bank will now absorb (or 'mop') any market surpluses by a short-maturity gilt repo, executed via a competitive rate tender.⁽¹⁾

HM Treasury and Bank of England euro issues

The Bank of England continued to hold regular monthly auctions of €1 billion of bills during 2000 Q1, comprising €200 million of one-month, €500 million of three-month and €300 million of six-month Bank of England bills. The stock of euro bills outstanding was therefore maintained at €3.5 billion throughout the quarter. The auctions were oversubscribed, with issues being

(1) In addition, the Bank can ask the DMO to issue extra Treasury bills and deposit the proceeds at the Bank in order to drain the money market.

Money market instruments

Following the Securities Settlement Priorities Review of 1998, the Bank issued a consultation paper 'The Future of Money Market Instruments' in November 1999. This paper proposed that money market instruments (MMIs), which are currently settled in the Central Money Markets Office, should be dematerialised and integrated into CREST, the UK system for the electronic transfer and settlement of equities, and from later this year, gilts. A single system would allow market participants to settle MMIs (which include certificates of deposit, Treasury bills, bills of exchange and commercial paper), in the same way as for gilts and equities, and take advantage of economies of scale and increased efficiency in back-office systems.

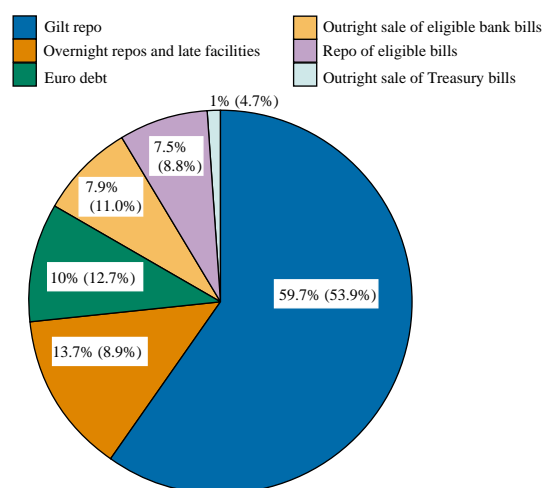
There was unanimous market support for the proposals and the Bank published a response, 'Next Steps', in March 2000, summarising the responses and the further work to be undertaken. This includes convening a new Working Group to consider further outstanding issues, such as the timetable, transition, valuation and grouping of MMIs, and issuance procedures. It will also be necessary to consider further the related legislative changes and other legal issues.

A number of the proposals related to bills of exchange. Some of these have already been implemented in

advance of the other MMI reforms, as they are not connected with dematerialisation. In March, the Bank liberalised the requirements for the eligible bank bills it takes in its open market operations. Hitherto, eligible bills had to be specifically related to a short-term self-liquidating transaction (eg a sale of particular goods). This reflected a long-established belief, going back several hundred years, that an underlying transaction should underpin the repayment made to the holder of the bill on maturity. This was seen as important for the sound condition of the bill market.

The Bank, with the market's support, concluded that a relationship with a transaction is no longer necessary to enhance the credit quality of a bill. Credit quality depends rather on the general financial condition of the accepting bank and of the company drawing the bill, and of any third party which guarantees the bill. So the underlying transactions requirement, and the associated clausuring requirements relating to the evidencing of the transaction, have been abolished. Eligible bills may now be drawn for any purpose. However, as previously, a bank must continue to make a general credit assessment of the drawer, and the original term of the bill must not be more than 187 days. A further liberalisation also allows banks generally to borrow from other banks by drawing bills.

Chart 32
OMOs—instrument overview^(a)



(a) This chart shows the share of the various instruments in the Bank's daily open market operations in 2000 Q1. Figures in brackets relate to 1999 Q4. Figures may not sum to 100% because of rounding.

covered by an average of six times the amount on offer. During the quarter, bids were accepted at average yields of around the euribid rate for the relevant maturity.

€500 million of a new three-year euro Treasury note, the ninth in the programme of annual new issues, was auctioned on 18 January 2000. Cover at the auction for the 4.75% January 2003 issue was four times the amount of offer. The 4% 2000 euro Treasury note (€2.0 billion of which had been issued in 1997) matured at the end of January. The total of notes outstanding with the public under the UK euro note programme thus fell from €6.0 billion at the end of December, to €4.5 billion at the end of March 2000. Further reopening auctions of the 2003 euro Treasury note are expected to take place on 18 April, 18 July and 17 October 2000.

On 21 March, the Bank of England announced that it will be taking over from HM Treasury as the issuer of euro notes. This is similar to the change made last year when the Bank took over from HM Treasury as issuer of euro bills. The Bank plans to make its first issue of Bank of England euro notes in January 2001. Apart from the change in issuer, there will be no other significant changes to the features of the programme. The proceeds from these note issues will be held on the Bank's balance sheet as foreign currency assets. HM Treasury will use foreign currency swaps out of sterling to replace the part of the financing of the Government's foreign

Table J
Changes in the sizes of weekly Treasury bill tenders

Period beginning	Amount (£ millions):	
	One-month tender	Three-month tender
30 December	0	100
10 March	250	100
17 March	500	100
24 March	750	100
31 March	150	100

exchange reserves that was previously provided by the issue of euro Treasury notes. The additional sterling financing requirement that this will create is reflected in HM Treasury's sterling financing plans for 2000/01.

UK gold auctions

On 7 May 1999, HM Treasury announced a restructuring of the United Kingdom's reserves, which involved a programme of five gold auctions in the financial year 1999/2000. The last two auctions in this programme took place on 25 January and 21 March—25 tonnes of gold were sold at each. The auction on 25 January achieved a price of \$289.50 and was covered 4.3 times. The auction on 21 March achieved a price of \$285.25 and was covered 3.0 times. Plans for gold sales in the financial year 2000/01 were announced by HM Treasury on 3 March 2000. There will be a programme of six auctions of around 25 tonnes each, with the first two taking place on 23 May and 12 July. It is intended that the remaining four auctions in this financial year will take place in September and November 2000, and in January and March 2001.